

### REMARKS/ARGUMENTS

Claims 3 and 8/3-8/6 are rejected under 35 U.S.C. §103(a) as being unpatentable over Wu (U.S. Patent No. 6,132,260) in view of the prior art of Figs. 1-3 of Yamamoto et al. (U.S. Patent No. 5,865,934) and Kunz (U.S. Patent No. 6,171, 152). Applicants respectfully traverse this rejection.

Applicants' invention as reflected, in independent claim 3, is directed to a multiport connector, which comprises a housing having at least two aligned compartments, each compartment being structured and arranged to receive respective plugs. A multilayer printed wiring board separates the two compartments, the printed wiring board having circuit patterns on opposite sides of opposed non-conductive layers and a metal shielding layer intermediate the non-conductive layers. A first plurality of conductive contact fingers are disposed in one of the compartments and a second plurality of conductive contact fingers are disposed in another of the compartments. The first plurality of fingers have first portions for making electrical contact with one of the plugs and second portions for making contact with the circuit pattern on one of the non-conductive layers of the multilayer printed wiring board. The second plurality of fingers have first portions for making electrical contact with another one of the plugs and second portions for making contact with the circuit pattern on another one of the non-conductive layers of the multilayer printed wiring board. One of the compartments has a toroid assembly housing for housing two sets of toroids, one set for one compartment and the other set for another compartment and the toroid assembly housing has a metal separator for separating one set of toroids from the other set of toroids.

As recognized by the Examiner, Wu does not disclose a multilayer printed wiring board. More significantly however, Wu does not disclose a shield between the upper and lower compartments. Accordingly, there would be no motivation for one skilled in the art to use a printed wiring board such as Yamamoto et al in place of the board 7 of Wu.

Assuming for the sake of the argument that there is motivation to provide internal shielding, Applicants respectfully submit that there is no suggestion to do so by providing a

shield in the printed wiring board 7. Indeed, in U.S. Patent No. 6,206,725, in which Wu is the inventor and the assignee is the same assignee as the assignee of Wu '260, a connector assembly is disclosed which appears to be very similar to the connector assembly disclosed in Wu '260. In this connector, inner shielding is effected by an inner shielding member 3 which is vertically disposed behind the upper and lower compartments rather than incorporated in circuit boards of the upper and lower compartments or disposed horizontally between the circuit boards. Why would one skilled in the art be motivated to replace a shielding technique already shown to work in the Wu connector and instead use a different, unproven shielding technique?

In response to Applicant's argument that there is no suggestion to combine the references, the Examiner, in the Office Action dated November 14, 2006, states that there is such a suggestion. According to the Examiner, "Yamamoto (in prior art Figs. 1-3) teaches a multiplayer printed wiring board having circuit patterns (23) on opposite sides of opposed non-conductive layers (22) and *a metal shielding layer* intermediate the non-conductive layers to provide structural strength and heat dissipation (Col. 9, lines 59-61)." (emphasis added). However, nowhere in lines 59-61 or anywhere else in Yamamoto is the metal plate 21 characterized as a "metal shielding layer"; instead, Yamamoto in lines 59-61 states that the metal plate 21 serves as a support, a reinforcement and a heat sinking element, as well as a ground electrode. Accordingly there is no suggestion in Yamamoto to use the multilayer board as a shield and therefore no suggestion for combining Yamamoto with Wu to provide shielding. The Examiner notes that the fact that applicant has recognized another advantage (i.e. providing shielding) which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. Applicant agrees, that if there were a reason suggested to combine the references, the fact that Applicant had recognized another advantage would not be the basis for patentability. But that is not the

case here. There is no reason why one skilled in the art would use a board, one of whose primary features is heat sinking, in an application in which heat generating components are not employed, particularly where such a multilayered board would add considerable cost.

In addition to the significant difference of shielding, independent claim 3 also differs from Wu and Yamamoto by specifying that one of the compartments has a toroid assembly housing for housing two sets of toroids, one set for one compartment and the other set for another compartment, wherein the toroid assembly housing has a metal separator for separating one set of toroids from the other set of toroids

The Examiner relies on the newly cited Kunz patent to show this feature. In particular, the Examiner contends that Kunz teaches "a metal separator 74 for separating sets of toroids in order to reduce electromagnetic interference caused by one set to another." However, what the Examiner characterizes as a separator is actually the middle part of a three-piece Faraday shield which also comprises parts 76 and 78. The three Faraday shield pieces 74, 76, and 78 are assembled and electrically connected such that "they constitute a continuous shield *around* the whole of the eight-port, two-row modular connector 60" (col. 5, lines 7-10; emphasis added). Thus, no part of the shield, let alone the part 74, separates the sets of toroids from one another but, instead, the entire shield surrounds all of the sets. Further, the sets of toroids are not even electromagnetically shielded from one another. Indeed, the walls of the housing separating the sets of housing are insulative, i.e., they are integral parts of the insulative housing 42. (see, e.g., col. 4, lines 37-40) In response to Applicant's argument that the "separator is actually the middle part of a three-piece Faraday shield", the Examiner contends that this does not deny the fact that it is a metal separator. In this connection, it should first be noted that nowhere in Kunz is the middle part of the three-piece Faraday shield characterized as a separator. Secondly, what the Examiner is attempting to do is not combine the shield of Kunz with Wu, but instead to disassemble the shield and allege that there is a suggestion

to combine one of the disassembled parts thereof with Wu for a purpose not taught by the reference. There is absolutely no precedence for such an approach.

In view of the foregoing it is respectfully submitted that claim 3 is clearly patentable over the combination of Wu '260, Yamamoto and Kunz.

Claims 8/3-8/6 are dependent either directly or indirectly from claim 3 and, therefore, patentable for the same reasons, as well as because of the combination of the features set forth in these claims and the features set forth in the claim(s) from which these claims depend.

Claims 7 and 8/7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Wu '260, Yamamoto and Kunz and further in view of Laity (U.S. Patent No. 6,183,308). Applicants respectfully traverse this rejection.

Claims 7 and 8/7 are dependent either directly or indirectly from claim 3. Laity does not address any of the deficiencies noted with respect to Wu '260, Yamamoto and Kunz. Accordingly, it is respectfully submitted that claims 7 and 8/7 are patentable over Wu, Yamamoto, Kunz and Laity for the same reasons advanced above in connection with claim 3.

In addition, Wu '260 discloses that the board 7 is connected to the upper and lower contacts by soldering the sections 42, which have been soldered to the board 7. As should be obvious, Applicants concept of merely using spring loaded pressure to effect electrical connection is simpler and does not involve the complexity of a soldering step or steps as is required in connection with Wu '260

In connection with the rejection of claims 7 and 8/7 based on Laity, the Examiner states that "Laity teaches a connector having contact fingers (354) with resilient second portions (358) *being connected to traces on a circuit board by spring action* to provide a resilient and secure connection, thus efficient and easier (than soldering) to complete." (emphasis added). The Examiner, however, is incorrect; Laity, in fact, connects the portions (358) to traces on a circuit board **by soldering**. See, for example, the following excerpt from Laity:

As seen in FIG. 24, the rearwardly extending first terminal portion *or solder tail 358 of each contact wire 354 engages the upper surface 308 of the*

*PCBA 310 and is soldered, for example, by reflow soldering, to traces on the PCBA 310 along the rear margin 311 thereof. The recesses 322, 324 and 326 and the beveled surfaces 336, 338 and 340 defined by the wall 316 provide access to the solder tails 358 for inspection and manually touching up the solder joints, if necessary. (col.10, lines 8-16) (emphasis added).*

Thus, there is no teaching in Laity to connect portions of contacts to a printed wiring board by spring pressure but, to the contrary, Laity teaches soldering.

In view of the foregoing it is respectfully submitted that claims 7 and 8/7 are clearly patentable over the combination of Wu '260, Yamamoto, Kunz and Laity.

Claims 9/8/3 to 9/8/6 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Wu, Yamamoto and Kunz and further in view of Goodall et al (U.S. Patent No. 5,531,612). Applicants respectfully traverse this rejection.

Claims 9/8/3 to 9/8/6 are dependent either directly or indirectly from claim 3. Since Goodall et al does not teach any of the deficiencies of Wu '260, Yamamoto and Kunz, it is respectfully submitted that claims 9/8/3 to 9/8/6 are patentable over the combination of Wu, Yamamoto, Kunz and Goodall for the same reasons as claim 3, as well as because of the combination of features set forth in these claims with the features set forth in the claim(s) from which they depend.

In addition, with respect to claim 6, the Examiner contends that Wu discloses second portions based upon by distances greater than the spacings of the first portions. He refers to Fig. 3. Applicants can find no such disclosure in Fig. 3. Indeed, just the opposite is found. It appears that the spacings between all of the contacts for terminal 42 and terminal 61 are identical.

The Examiner, in response to Applicant's argument (regarding claim 9/8/6) that the spacing between the contacts and the terminals are identical, notes that Applicant is comparing 42 and 61 while claim 6 refers to 41 and 42, which show the required spacing difference. Upon reconsideration, Applicant agrees with the Examiner that claim 6 refers to 41 and 42, but

strongly disagrees that Fig.3 or any other Figure show spacing differences between 41 and 42; nor, is there any teaching or suggestion in the speciation to that effect. Surely, if the spacing were different, the patentee would have so noted in the specification,

Claim 9/8/7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Wu, Yamamoto et al, Kunz and Laity, and further in view of Goodall et al. Applicants respectfully traverse this rejection. Claim 9/8/7 is dependent either directly or indirectly from claim 3. Since Goodall et al does not teach any of the deficiencies of Wu '206, Yamamoto and Kunz, it is respectfully submitted that claims 9/8/7 is patentable over the combination of Wu, Yamamoto, Kunz and Goodall for the same reasons as claim 3 is patentable, as well as because of the combination of features set forth in these claims with the features set forth in the claim(s) from which they depend.

Claims 12-15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Wu, Yamamoto, Kunz and further in view of Goodall et al. Applicants respectfully traverse this rejection.

Claim 12, like claim3, specifies that the toroid assembly housing has a metal separator for separating one set of toroids from the other set of toroids. As discussed above, neither Wu, Yamamoto, Kunz nor Goodall et al., disclose or suggest this feature. Accordingly, it is respectfully submitted that claim 12 is clearly patentable over Wu, Yamamoto, Kunz and Goodall et al.

Claims 13-15 are dependent either directly or indirectly from claim 12. Accordingly, it is respectfully submitted that claims 13-15 are patentable for the same reasons, as well as because of the combination of features set forth in these claims with the features set forth in the claim(s) from which they depend.

Claim 16 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Wu '260, Yamamoto, Goodall and Kunz and further in view of Laity. Applicants respectfully traverse this rejection.

Claim 16 is dependent either directly or indirectly from claim 12. Laity does not address

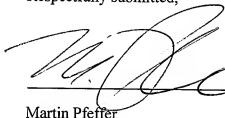
any of the deficiencies noted with respect to Wu '260, Yamamoto, Kunz and Goodall. Accordingly, it is respectfully submitted that claim 16 is patentable over Wu, Yamamoto, Kunz, Goodall and Laity for the same reasons advanced above in connection with claim 12.

In summary, Applicant respectfully submits that the Examiner is rearranging and making modifications to the prior art structure using Applicant's claims as a blueprint. It has long been held that such hindsight reconstruction is impermissible.

In view of the foregoing this application is now believed to be in condition for allowance, which action is respectfully requested.

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Respectfully submitted,

A handwritten signature in black ink, appearing to read 'M. Pfeffer', is written over a horizontal line.

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